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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,276	08/22/2003	Matthew J. Knox	11721-032	9333
7590		02/23/2005	EXAMINER	
Sally J. Brown		NGUYEN, PHUNG		
Autoliv ASP, Inc.		ART UNIT		
3350 Airport Road		PAPER NUMBER		
Ogden, UT 84405		2632		

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,276

Applicant(s)

KNOX, MATTHEW J.

Examiner

Phung T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-34 is/are rejected.
- 7) ☒ Claim(s) 17 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/14/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 35 is objected to because of the following informalities:

Claim 35, line 1, "according to Claim 27" should be changed to --according to Claim 34--

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16, and 18-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis et al. (U.S. Pat. 6,623,032) in view of Chinigo et al. (U.S. Pat. 6,556,903).

Regarding claim 1: Curtis et al. disclose belt force sensor comprising first and second members contacting the first web surface of the seat belt; a third member located between the first and second members and contacting the second web surface of the seat belt, the third member providing a response to the tension of the seat belt; a force sensing device coupled to the third member (fig. 2, col. 3, lines 12-19). Curtis et al. teach sensing movement of the third member 36 corresponds to the tension of the seat belt but fail to teach the device being adapted to alert the operator when the response of the third member corresponds to the tension of the seat belt being within the predetermined range. However, Chinigo et al. disclose safety system for school bus which comprises alerting the operator when the seat belt is in improper position (col. 6, lines 25-42, and col. 8, lines 22-41). Therefore, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to employ the teaching of Chinigo et al. in the system of Curtis et al. because alerting the operator when the seat belt is in improper position would provide a safety system for vehicles.

Regarding claim 2: Curtis et al. disclose the force sensing device including an element adapted to sense a torsional load applied to in the third member, the torsional load being created in response to the tension of the seat belt (col. 3, lines 20-32).

Regarding claim 3: Curtis et al. disclose the force sensing device including a printed circuit board in communication with the element as shown in figure 2.

Regarding claim 4: Curtis et al. do not disclose wherein the first, second, and third members cooperate to form an S-clip. However, it would be an obvious design choice to have the first, second, and third members cooperate to form an S-clip or any other shape to detect the tension of the seat belt because they are functional equivalent.

Regarding claim 5: Curtis et al. disclose wherein the S-clip forms a tooth to retain the seat belt (col. 3, lines 20-22).

Regarding claim 6: Curtis et al. disclose wherein the first member forms a first leg of the S-clip, the second member forms a second leg of the S-clip, the third member forms a center section of the S-clip as seen in figure 2.

Regarding claim 7: Chinigo et al. disclose a light to provide a visual alert to the operator when the tension is within the predetermined range (col. 8, lines 29-33). Plus the consideration of claim 1 above.

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Regarding claim 8: Chinigo et al. disclose a tone generator to provide an audible alert to the operator when the tension is within the predetermined range (col. 8, lines 38-41). Plus the consideration of claim 1 above.

Regarding claim 9: Curtis et al. and Chinigo et al. do not show the force sensing device including a manual input in communication with an integrated circuit to indicate when a reference tension is applied to the apparatus. However, it would be obvious to the skilled artisan to have a manual input in communication with an integrated circuit to indicate when a reference tension is applied to the apparatus which provides more convenient.

Regarding claim 10: Curtis et al. inherently disclose the force sensing device including a biasing member coupled to the third member as seen in figure 2.

Regarding claim 11: Curtis et al. disclose wherein the third member is displaced in response to the tension in the seat belt (col. 3, lines 20-32).

Regarding claim 12: Curtis et al. and Chinigo et al. do not show wherein the first member includes a roller for contacting the seat belt. However, it would be obvious to the skilled artisan to have the member including a roller for easily contacting the seat belt.

Regarding claim 13: Curtis et al. and Chinigo et al. do not show wherein the third member is comprised of a pin assembly having a rounded head to contact the seat belt as claimed. However, it would be obvious to have a rounded head to contact the seat belt if desired.

Regarding claim 14: Refer to claim 12 above.

Regarding claim 15: Refer to claim 12 above.

Regarding claim 16: Refer to claim 7 above.

Regarding claim 18: Refer to claim 4 above.

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Regarding claim 19: All the claimed subject matter is already discussed in respect to claim 1 above.

Regarding claim 20: Refer to claim 4 above.

Regarding claim 21: Refer to claim 5 above.

Regarding claim 22: Refer to claim 6 above.

Regarding claim 23: Refer to claim 3 above.

Regarding claim 24: Refer to claim 7 above.

Regarding claim 25: Refer to claim 8 above.

Regarding claim 26: Refer to claim 9 above.

Regarding claim 27: All the claimed subject matter is already discussed in respect to claims 1 and 11 above.

Regarding claim 28: Refer to claim 10 above.

Regarding claim 29: Curtis et al. disclose wherein the biasing member biases the third member against the seat belt as shown in figure 2.

Regarding claim 30: Refer to claim 12 above.

Regarding claim 31: Refer to claim 13 above.

Regarding claim 32: Refer to claim 14 above.

Regarding claim 33: Refer to claim 15 above.

Regarding claim 34: Refer to claim 16 above.

Allowable Subject Matter

4. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Blakesley et al. [U.S. Pat. 6,450,534] disclose seat belt tension sensor.
- b. Lawson [U.S. Pat. 6,508,114] discloses webbing tension sensor.
- c. Stanley et al. [U.S. Pat. 6,829,952] disclose seat belt tension sensor.
- d. Almaraz et al. [U.S. Pat. 6,851,503] disclose seat belt tension sensor assembly.
- e. Young [U.S. Pat. 5,871,063] discloses seat belt latch sensor system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung T Nguyen whose telephone number is 571-272-2968. The examiner can normally be reached on 8:00am-5:30pm Mon thru. Friday, with alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on 571-272-2964. The fax numbers for the organization where this application or proceeding is assigned are 703-305-3988 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

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Phung Nguyen

A handwritten signature in black ink, appearing to read 'Phung Nguyen', with a long horizontal flourish extending to the right.

Date: February 14, 2005